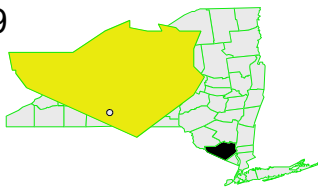


# WARWICK LANDFILL

## NEW YORK

EPA ID# NYD980506679



## EPA REGION 2

### CONGRESSIONAL DIST. 20

Orange County  
Town of Warwick

**Other Names:**  
**Penaluna Landfill**

## Site Description

---

The Warwick Landfill site (Site) is an unlined landfill that transects a small valley and occupies roughly 19 acres of a former 25-acre leasehold area fronting on Penaluna Road in the Town of Warwick. The surrounding area is hilly, interspersed with both residential and wooded areas. Both wetlands and rock outcroppings lie adjacent to some landfill areas. In the mid-1950's, the Town of Warwick leased the property from the Penaluna family and used the area as a refuse disposal area. Evidence indicates that there were some hazardous materials disposed of at the landfill during this period. The Town of Warwick operated the landfill until 1977, at which time the owner leased it to Grace Disposal and Leasing, Ltd. In 1979, New York State Department of Environmental Conservation (NYSDEC) sampled leachate seeping from the Site and detected volatile organic compounds (VOCs), heavy metals and phenols. New York State subsequently issued a restraining order and closed the landfill. Approximately 2,100 residents within 2 miles of the Site depend on private wells for drinking water. The closest home is 250 feet south of the Site, along Penaluna Road. The Village of Greenwood Lake, a recreational community, lies about 1-1/2 miles southwest of the Site; although residences in this community are hooked up to a public water supply, dwellings outside the village rely on private wells.

**Site Responsibility:** This site is being addressed through Federal, State and potentially responsible party (PRP) actions.

### NPL LISTING HISTORY

Proposed Date: 09/01/85  
Final Date: 03/30/89

## Threats and Contaminants

---



On-site groundwater contains low levels of VOCs, semi-VOCs and metals. Leachate, surface water, and sediments at the Site contain low levels of VOCs, as well as some phenols and heavy metals. Groundwater sampling indicates that residential wells in the vicinity of the Site have not been and are not expected to be impacted by site-related contaminants.

## Cleanup Approach

---



The Site has been addressed in two remedial phases or operable units, focusing on source and contaminant migration control and investigation of the area groundwater. This is a Federal PRP-lead site.

## Response Action Status

---



**Source Control:** In 1989, the EPA initiated a remedial investigation/feasibility study (RI/FS) of groundwater, surface water, sediments and soil contamination at the Site. This RI/FS examined the nature and extent of contamination and was completed in early 1991. A Record of Decision (ROD) for this first operable unit (OU-I) was issued in June 1991. The major components of the selected remedy were 1) capping the landfill and 2) providing an interim measure to ensure that area residents have a potable water supply. Based on the results of the OU-I groundwater sampling, four residential wells containing VOC-contamination which exceeded NYS and/or Federal drinking water standards were provided with point-of-use carbon treatment units.

In February 1992, four potentially responsible parties (PRPs) agreed to comply with a Unilateral Administrative Order (UAO) to perform the remedial design and remedial action (RD/RA), which included the construction of the landfill cap, as outlined in the OU-I ROD. In April 1993, a second group of four potentially responsible parties (PRPs) were subsequently issued a second UAO for OU-I. In August 1995, EPA and NYSDEC approved the PRPs' final design report for the landfill cap system.

The PRPs also developed and implemented a residential well monitoring program to examine the quality of groundwater in private residential wells within a one-quarter mile radius of the Site.

The construction phase of the multi-layer cap for the Site was deemed complete in September 1998. The construction of the landfill cap is the only remedial action being taken at the Site.



**Migration Control:** In December 1991, EPA began planning additional investigations for examining the extent of contaminant migration from the Site and options to control migration of contaminants. In September 1992, EPA subsequently issued an Administrative Order on Consent (AOC) to four PRPs for the RI/FS for the second operable unit (OU-II), which included extensive groundwater sampling and installation of new monitoring wells. In July 1995, the PRPs completed the RI for the groundwater which indicated that the limited low level contamination found in residential wells was upgradient of the landfill and, thus, was not Site-related. In August 1995, EPA presented its Proposed Plan and discussed the proposed No Further Action selected remedy. In September 1995, a No Further Action ROD was issued for the Site groundwater.

## Cleanup Progress



After adding the Site to the NPL, EPA conducted an initial evaluation and determined that no immediate actions were needed. However, as an interim remedy, four residences upgradient of the Site were fitted with point-of-use treatment systems; subsequent investigation indicated that contamination found at these residences was not site-related. The sampling of these homes showed no VOC-contamination above New York State and/or Federal drinking water standards. The results of the residential well monitoring program indicate that the groundwater, for those residential wells sampled, is well within Federal and State drinking water standards.

Currently, the Site is in the operation, maintenance and monitoring phase. Monitoring of the groundwater, surface water, sediments and landfill gas conditions began shortly after the final inspection in September 1998. Monitoring is conducted on a five-quarter basis; the latest sampling event was performed in December 2003. To date, based upon monitoring results and the Site inspections, EPA has determined that the implemented remedy of the landfill cap continues to be protective of human health and the environment. Physical on-site inspections are performed on a yearly basis.

The waste quantity in the landfill has been approximated at 1.15 million cubic yards (cy) or 1.73 million tons (1.5 tons/cy x 1.15 million cy).

Construction of the 20-acre synthetic liner cap was completed in September 1998. The Site was deemed construction complete on September 28, 1998.

EPA, in conjunction with NYSDEC, completed a five-year review for the Site in August 2001. Based on the findings of the five-year review, EPA concludes that the remedy at the Site was implemented in accordance with the requirements of the two RODs and is protective of human health and the environment.

EPA obtained an environmental protection easement and declaration of restrictive covenants in May 2001 from the property owner. The easement was signed by EPA and the PRPs and subsequently lodged in January 2003. The easement is filed with the Orange County Clerk's office as part of the property record and will run with the land to ensure that future use of the Site property will maintain the integrity of the cap.

## Site Repository



Warwick Town Hall @ (914) 986-1120, 60 Main Street, Warwick, New York 10990.

